NAVAL AEROSPACE MEDICAL RESEARCH LABORATORY

Pensacola, Florida

Navy Medicine Senior Leaders'

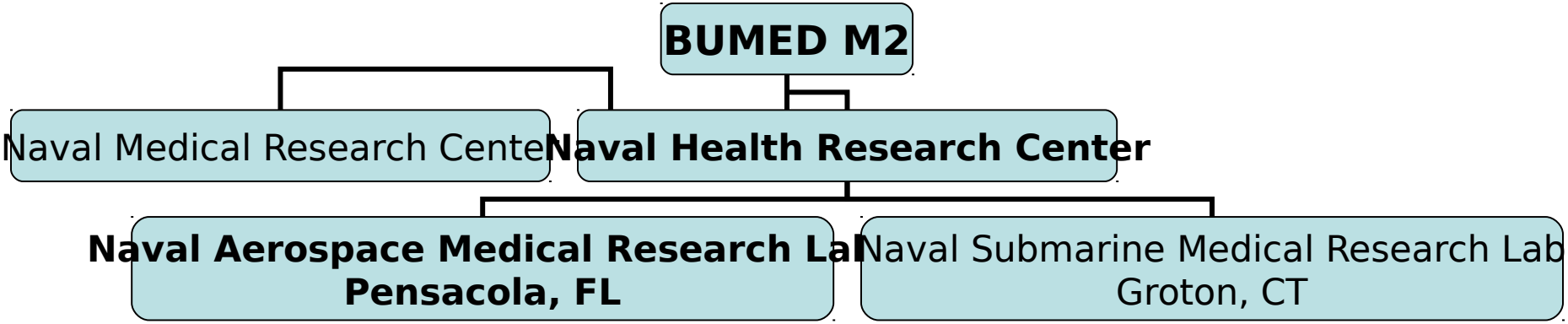
Video Teleconference Program

10 June 2003

NAMRL MISSION

“To conduct research and development in aviation medicine and the allied sciences to enhance the health, safety, and readiness of Navy and Marine Corps personnel in the effective performance of peacetime and contingency missions.”

NAVY MEDICAL R&D



RESEARCH AREAS

- Spatial Orientation
- Aviation Selection
- Visual Sciences
- Acoustics
- Operational Medicine

PERSONNEL

- Military
  - Flight Surgeons
  - Aerospace Physiologists
  - Aerospace Experimental Psychologists
  - Flight Nurse
  - Corpsmen; Electronics Technician
- Civil service scientists
- Civil service support
- Contractor science & support

CURRENT ISSUES

- Accidents are on the increase
  - SECDEF says, “reduce…by at least 50%…”
- Aviation Mishaps
  - $589,230,000 in FY-03 as of 15 May 03
    - 25 fatalities
    - 18 destroyed aircraft
  - Worst year in the last 15 years
  - Human factors ~ 80% of Class-A Mishaps

SUCCESSES

- OZ
  - Novel Cockpit Display
- ROBD
  - Reduced Oxygen Breathing Device
- TSAS™
  - Tactile Situation Awareness System
- TACMEDCS
  - Tactical Medical Coordination System

OZ

- PATENT
- INTEGRATED DISPLAY
  - Eliminates multiplicity of gauges
- EASILY LEARNED BY AVIATORS
  - Ninety minute session for familiarization
- RESISTANT TO DEGRADATION
- COLLABORATIVE EFFORT
  - Institute of Human & Machine Cognition, UWF

ROBD

- PATENT
- UTILITY TO FLEET
  - Refresher training on hypoxia
  - Portable; no hyperbaric chamber exposure
- COLLABORATIONS
  - Aventis Pharmaceutical Company - ongoing
  - Navy Experimental Diving Unit - proposal

TSAS™

- COMBAT MISSION NEED STATEMENT
  - Signed
- JOINT OPERATIONAL REQUIREMENTS DOCUMENT (JORD)
  - In staffing
- FLIGHT TESTS WITH ARMY & AF SPECIAL OPERATIONS; RCAF
  - In progress

TACMEDCS

- FIELDED IN IRAQ - FLEET HOSPITAL 3
  - Test of Radio Frequency ID technology
  - Patient wristbands with RFID embedded
  - 2.0 Kb of data
- CASUALTY TRACKING
  - Dog tags with RFID embedded
  - Read/write capability; GPS module
  - Centralized locator system

CHALLENGES - LOCAL

- BUDGET
- PERSONNEL
- PHYSICAL PLANT

CHALLENGES - SYSTEMIC

- RESEARCH FUNDING UNCERTAINTIES
- CIVILIAN SCIENTISTS
  - Too few
  - Corporate memory & continuity
  - Difficult to compete with industry & academe
- MILITARY SCIENTISTS
  - Tour too short – hard to complete projects
  - Tour too long – not competitive for promotion

Research Success

- **“Money matters.”**
- **“Performance counts.”**

John V. Lombardi
Chancellor
UMASS, Amherst
Inaugural Address